

Abstract of the Disclosure

[0031] A method of forming an optical fiber preform using, for example, an MCVD process, is modified to reduce the presence of hydrogen-induced transmission losses in an optical fiber drawn from the preform. A relatively porous, unsintered soot layer is first formed (similar to the initial soot layer commonly associated with the solution-doped process of the prior art) and then subjected to a flow of a metal halide (such as SiCl_4) to reduce the presence of excess oxygen. It is imperative that the metal halide treatment occur in the absence of oxygen. Sintering of the treated layer, followed by a conventional collapsing process is then used to form the inventive preform. In accordance with the present invention, both the sintering and collapsing steps are performed in a non-oxygen based ambient. When the drawn fiber is then later exposed to hydrogen, the lack of oxygen thus eliminates the formation of Si-OH and the associated attenuation problems.